



INVESTIGATOR'S ANNUAL REPORT

United States Department of the Interior
National Park Service

All or some of the information you provide may become available to the public.

OMB # (1024-0236)
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Reporting Year: 2010	Park: Shenandoah NP	Select the type of permit this report addresses: Scientific Study	
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Project Title (maximum 300 characters): Inventory of selected invasive species in Shenandoah National Park			
Park-assigned Study or Activity #: SHEN-00377	Park-assigned Permit #: SHEN-2010-SCI-0010	Permit Start Date: Jun 01, 2010	Permit Expiration Date: Sep 01, 2010
Scientific Study Starting Date: Jun 01, 2010		Estimated Scientific Study Ending Date: Sep 01, 2013	
For either a Scientific Study or a Science Education Activity, the status is: Continuing		For a Scientific Study that is completed, please check each of the following that applies: <input type="checkbox"/> A final report has been provided to the park or will be provided to the park within the next two years <input type="checkbox"/> Copies of field notes, data files, photos, or other study records, as agreed, have been provided to the park <input type="checkbox"/> All collected and retained specimens have been cataloged into the NPS catalog system and NPS has processed loan agreements as needed	
Activity Type: Inventory			
Subject/Discipline: Plant Communities (Vegetation)			

Purpose of Scientific Study or Science Education Activity during the reporting year (maximum 4000 characters):

The Nature Conservancy has identified 22 large (10,000+ac.), unfragmented forest landscapes within the Piedmont ecoregion of Virginia, and considers them a priority for conservation. The goals within these landscapes are to 1) protect 10,000 acres of contiguous forestland, either through fee acquisition or conservation easements, and 2) restore and maintain the forest communities that would naturally occur there.

One of the most unfragmented of these forest blocks is located in western Albemarle and Greene counties, comprised of Shenandoah National Park and surrounding private land. Within this Southern Shenandoah Forest Block, NPS land comprises 20% of the total acreage, and 50% of the highest priority acreage. Given the Park's importance, TNC is very interested in seeing that land not become vulnerable to a top threat facing eastern forests: invasive species.

Invasive, exotic species have been a growing threat to eastern forests, a trend widely noticed within the conservation community. Shenandoah National Park scientists recognize this fact themselves; the Park's website states that "(t)he invasion of non-native species is one of the most serious threats that parks face today (NPS website, 2010). Forest inventory data, analyzed by the U.S. Forest Service, shows that species such as *Ailanthus altissima*, an exotic tree from S.E. Asia, are occupying a growing portion of Virginia's forestlands. The number of *Ailanthus* stems in Virginia grew from 54.3 million in 2001 to 70.8 million in 2007 (Rose, 2009), an increase of 30%. In contrast, the number of oak stems during this same time period decreased by 3% (Rose 2007, Rose 2009).

In order to get a sense of both the severity and spatial distribution of invasive species, TNC is proposing to conduct an inventory of selected invasive species within unfragmented sections of the Park. Once the inventory is complete, TNC will work with Park staff to secure funding for restoration projects, with priority given to the areas identified as having the most severe invasive infestations.

Both TNC and the NPS have long histories of successful restoration of natural habitat. This proposed inventory seeks to build on the Park's previous efforts to control invasive species within its boundaries.

Findings and status of Scientific Study or accomplishments of Science Education Activity during the reporting year (maximum 4000 characters): 2,700 acres of Park forestland were inventoried for select invasive species. 1,800 sample plots were established. Non-destructive vegetational measurements were taken at each point. Invasive species were found at ~25% of sample plots, with <i>Ailanthus</i> being the most common invasive. Distribution of invasive species was seemingly concentrated in near stream and lower slopes that were disturbed in a large storm in 1996.	
For Scientific Studies (not Science Education Activities), were any specimens collected and removed from the park but not destroyed during analysis? No	
Funding specifically used in this park this reporting year that was provided by NPS (enter dollar amount): \$0	Funding specifically used in this park this reporting year that was provided by all other sources (enter dollar amount): \$12000
List any other U.S. Government Agencies supporting this study or activity and the funding each provided this reporting year:	

Paperwork Reduction Act Statement: A federal agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. Public reporting for this collection of information is estimated to average 1.625 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the forms. Direct comments regarding this burden estimate or any aspect of this form to Dr. John G. Dennis, Natural Resources (3127 MIB), National Park Service, 1849 C Street, N.W., Washington, DC 20240.
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